

SUPPLEMENTARY MACHINE SERVICE BULLETIN #40D

SUBJECT: Explanation of adjustments KAA Models 1 and 2 series.

DATE: April 11th, 1927.

TO ALL OFFICES:

If a multiplier key 2 to 9 is operated, and pressure is applied on the depressed key, and the machine multiplies more times than the depressed key indicates, but when the key is released, the machine will finish its operation and the key restore.

Cause:

The back stop pawl 1322 on assembly 13-14 does not catch the advancing rack 1245 at all times.

Explanation:

When a multiplier key is depressed and held down, the rack 1245 (Plate 45) is free, and it will slide back as far as the back stop pawl 1322 will let it go. If the key is not held depressed, the friction between the key 1246 (Plate 46, group 65) and the rack 1245 will be sufficient to hold the rack in advanced position. Now, if the key is held depressed and the back stop pawl 1322 is adjusted too far to the front, it will not hold the rack 1245 in advanced position, and the rack will rock back and forth until the pressure on the key 1246 is released, after which the friction between the rack 1245 and the key 1246 holds the rack in advanced position, and the machine finishes the multiplication.

Or:

The back stop pawl is adjusted too far to the rear. In this case the rack 1245 is allowed to slide back too far, and the rack shift pawl 1322 on assembly 13-15 will not drop in the next tooth when it is in its extreme rear position. Again when the pressure is released on the depressed key, it will finish the machine multiplication.

Or:

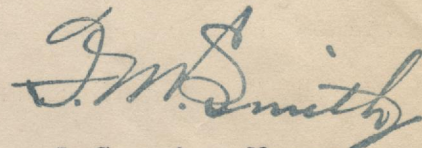
Either the back stop pawl 1322 on assembly 13-14 or the rack shift pawl 1322 on assembly 13-15 will slip by the teeth on the rack 1245. This will cause the multiplier to fail, whether the key is held depressed or not.

Remedy:

First adjust the rack shift pawl 1322 on assembly 13-15 so it has a positive engagement in the first opposing tooth of the rack 1245, when the shutter box 13-30 is pushed toward the rear and a key 1246 is depressed, by means of the adjusting stop 1347. See adjustment (Plate 35A, Fig. 2).

There is always some play in the shutter-box, and by pushing it to the rear this play is taken up, insuring a positive engagement of the shift pawl 1322 on assembly 13-15. When the shutter-box is in neutral position there should be about .010 clearance between the tip of the tooth on the pawl 1322 and the teeth on the rack 1245. Now depress a key and rotate the rack shift cam 13-4 (Plate 44). When the roller 1364 on assembly 13-15 is on the rise of the rack shift cam 13-4, adjust the back stop pawl 1322 on assembly 13-14 so there is about .010 to .015 clearance between the forward edge of the tooth on the pawl 1322 and the rear edge of the tooth on the rack 1245. Also adjust engagement the same as the rack shift pawl on assembly 13-15. (See description of rack feeding mechanism, Plate 29.)

Note: See that there is no bind in the movement of the rack shifter 13-15, and the rack pawls 1322, as this also would cause the multiplier to fail. Also see that the rack 1245 does not stick.



FMS:H

General Service Manager.

Mr. R. W. Suddard,
Toledo, Ohio.

There is always some play in the shutter-box, and in order to insure a positive engagement of the shift pawl 1322 on assembly 13-15. When the shutter-box is in neutral position there should be about .010 clearance between the tip of the tooth on the pawl 1322 and the tooth on the rack 1345. Now depress a key and rotate the rack shift cam 13-4 (Plate 44). When the roller 1364 on assembly 13-15 is on the rim of the rack shift cam 13-4, adjust the back stop pawl 1322 on assembly 13-14 so there is about .010 clearance between the forward edge of the tooth on the pawl 1322 and the rear edge of the tooth on the rack 1345. Also adjust engagement the same as the rack shift pawl on assembly 13-15. (See description of rack feeding mechanism, Plate 29.)

Note: See that there is no bind in the movement of the rack shift 13-15, and the rack pawls 1322, as this also would cause the multiplier to fail. Also see that the rack 1345 does not stick.

General Service Manager

ENC-11